

**Work Order ID 63864**

Wednesday, November 17, 2010 10:28:22 A

Page 1

Item ID: D212-664-201TRN

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Turning Detail

Start Date: 11/17/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 11/30/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:

Date: 10-17-17

Tooling:

Date:

QC:




Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D212-664-241	Rev D								
100		0.00							
	MORI SEIKI CNC LATHE LARGE								
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114 2-Turn first side as per Folio FA114 3- File transition lines smooth.								
110		0.00							
	QC1- Inspect dimensions to dimension sheet								
QC	Memo	0.00							
Quality Control									
120		0.00							
	MORI SEIKI CNC LATHE LARGE								
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	1-Turn second side as per Folio FA114 2- File transition lines smooth. 3-Remove sand and plugs 4- scribe batch # and part # as per dwg								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  QC Quality Control	QC1- Inspect dimensions to dimension sheet  Memo	0.00 0.00		10-12-7		1			
140  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00 0.00		10/12/14		1			
150  HandFXtube Hand Finishing Crosstubes	Crosstubes Chemical Conversion  Memo Chemical Conversion Coat as per within 24 hours of machining	0.00 0.00				1	0	BE 10/12/13	

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Required Date: 11/30/2010 Req'd Qty: 1.00



Customer:

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Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

*DP*

10-12-13



170

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and stock in kanban rack  
Location: L16

*DP*

10-12-13



180

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/12/14 *MF*

*MF*

10-12-13

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**NOTE:** Date & initial all entries

# Picklist Print

Wednesday, November 17, 2010 10:28:26 AM

Page 1

Work Order ID: 63864



Parent Item: D212-664-201TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 11/7/2010

Required Date: 11/30/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec  
IPP Rev B 08.04.02 Removed polish EC verified DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6006-129		Manufactured	No			120	Each	35.0000	1	1			
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Crosstube Material



*10-12-7*

Location

Loc Qty

Loc Code

LG

35

23970

2

26550

14

34690

11

38338 ✓

8

*1*

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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<b>DART AEROSPACE LTD</b>	<b>Work Order:</b> 123864
<b>Description:</b> Crosstube Assembly (205/212 High Aft)	<b>Part Number:</b> D212-664-241
<b>Inspection Dwg:</b> D212-664-241 Rev: D	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	.200	/		Visual	RD-02
	R0.063	+/-0.010	.063	/			
	2.990	+0.005/-0.000	2.993	/			
	5.237	+/-0.030	5.237	/			
	2.600	+0.005/-0.000	2.605	/			
	2.686	+0.005/-0.000	2.691	/			
	2.770	+0.005/-0.000	2.773	/			
	2.854	+0.005/-0.000	2.855	/			
	2.938	+0.005/-0.000	2.941	/			
	3.021	+0.005/-0.000	3.024	/			
	3.133	+0.005/-0.000	3.133	/			
	3.179	+0.005/-0.000	3.179	/			
SIDE B	0.200	+/-0.010	.200	/			
	R0.063	+/-0.010	.063	/			
	2.990	+0.005/-0.000	2.993	/			
	5.237	+/-0.030	5.237	/			
	2.600	+0.005/-0.000	2.605	/			
	2.686	+0.005/-0.000	2.691	/			
	2.770	+0.005/-0.000	2.773	/			
	2.854	+0.005/-0.000	2.855	/			
	2.938	+0.005/-0.000	2.941	/			
	3.021	+0.005/-0.000	3.024	/			
	3.133	+0.005/-0.000	3.134	/			
	3.179	+0.005/-0.000	3.179	/			
	124.362	+/-0.020	124.352	/		MR-14	

<b>Measured by:</b> <i>MD</i>	<b>Audited by:</b> <i>SA</i>	<b>Preliminary Approval:</b>	N/A
<b>Date:</b> 10.12.7	<b>Date:</b> 10/12/14	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	
B	06.03.09	Tolerance for 5.237 was +/-0.001	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM	
D	10.08.03	Dimension 124.362 was 124.36	KJ	<i>MA</i>

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Item	Qty -241	Qty -241B	Part Number	Description
1	X		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		X	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	4	4	MS21920-28	CLAMP (OR MS21920-30)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

# GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6006-129  
FINISHED LENGTH = 124.362±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF  
USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664)  
D212-664-241B = 44.2 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING  
IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE  
OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS  
AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1  
SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE  
SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE  
SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR  
DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND  
MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT  
HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 63864  
B810-1117

RELEASED  
2009-10-29  
MY

D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -241B (ZN D4-2, B4-2); REMOVED REF & ADD TOLERANCES (ZN D8-3 & C4-3, C6-3 & A8-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D212-664-241	SHEET 1 OF 4
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

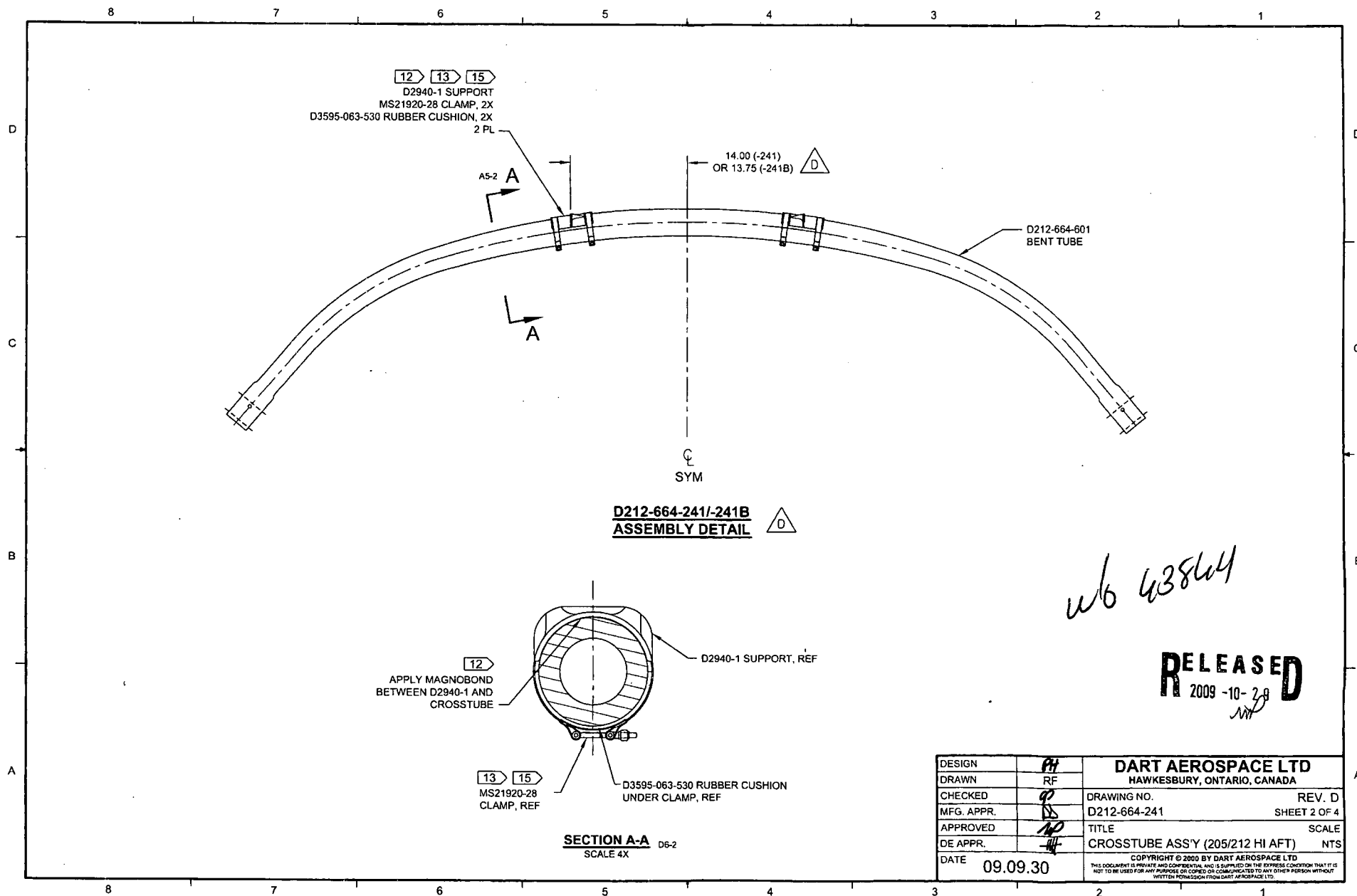
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**Dart Aerospace Ltd**

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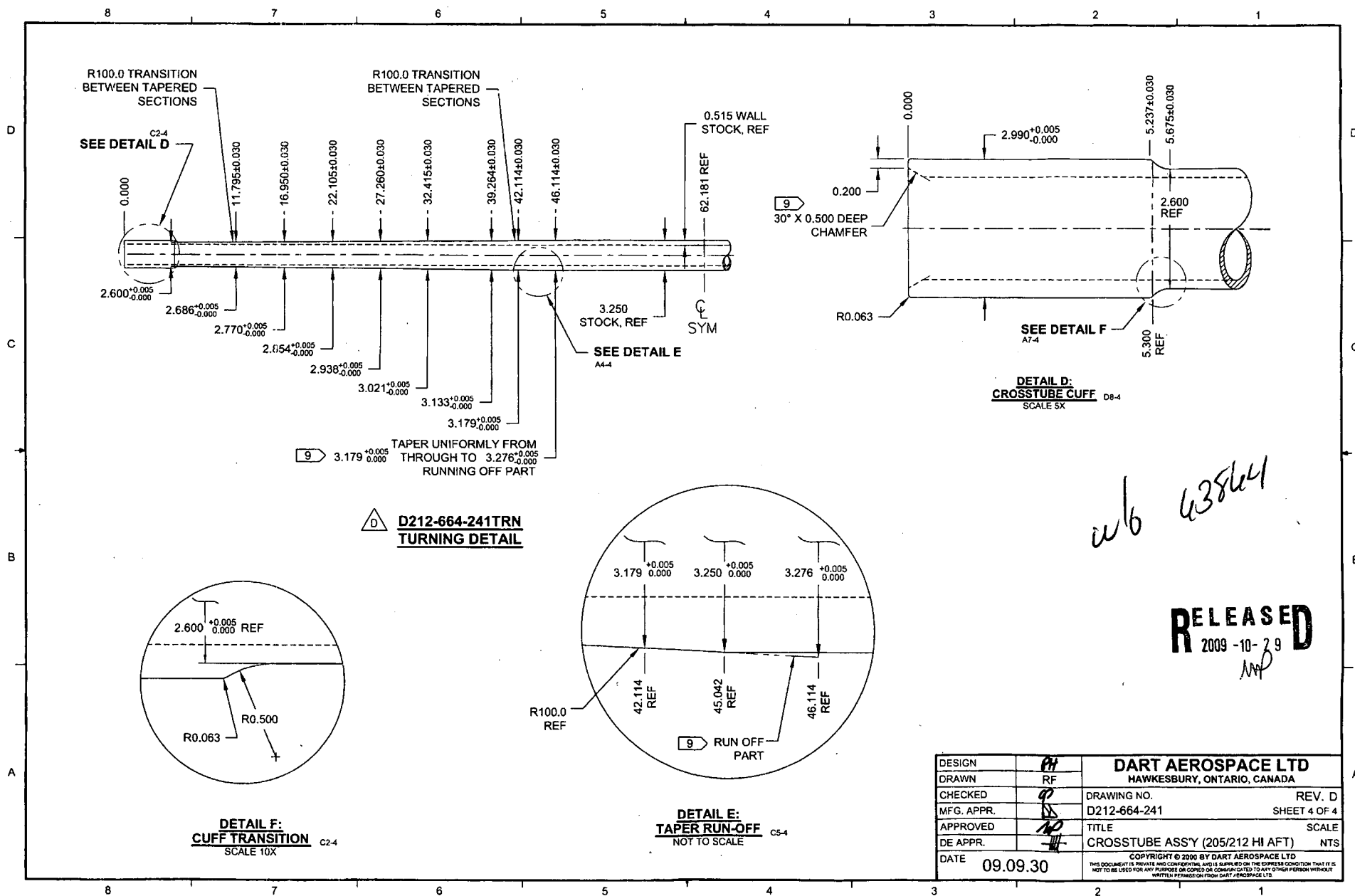
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